

## A METHOD FOR MAKING PHOTSENSITIVE FIBER SUITABLE FOR WAVELENGTH STABILIZATION GRATINGS

### BACKGROUND OF THE INVENTION

#### Field of Invention

5           The present invention is generally directed to devices for optical communications, and more particularly to a method for making photosensitive fiber suitable for wavelength stabilization gratings.

#### Description of the Related Art

10           Wavelength stabilization gratings (also referred to as laser stabilization gratings) are weak fiber Bragg gratings used to lock a semiconductor laser to a particular emission wavelength. They are typically a few tenths of a nanometer wide and reflect a small percentage of the incident light, e.g. 1 to 10% of the guided power in the fiber.

15           Generally, wavelength stabilization gratings are fabricated using UV-induced index changes in a host fiber, such as a standard telecommunications type fiber. For 980-nm pump laser applications, these gratings are typically written in a 980-type fiber, such as Corning® CS-980™ fiber or Corning® Flexcor™ 1060 fiber. For 1480-nm pump laser applications, Raman amplifier pump applications, or signal laser applications, they may be fabricated in a fiber such as Corning® SMF-28™ fiber.

20           Additionally, gratings may be written in a polarization-maintaining (PM) fiber such as Corning® PureMode™ PM Engineered fiber, PM 980 or PM 1550.

          Hydrogen loading must be used with in standard telecommunications type fibers